

AS4454:2012 COMPOSTS, SOIL CONDITIONERS AND MULCHES REPORT

1 sample supplied by Goulburn Mulwaree Council on the 1 March, 2021 - Lab Job No. K4111.

Analysis requested by Sam Morris.

184 Bourke Street GOULBURN NSW 2580

Parameter		Method Reference	K4111/1	Guideline
Product Name:		Sample 1		
Product Type:		Batch 1		
Manufacturing Site:		Compost		
Manufactured Date:		GMC		AS4454:2012
Test Code:		26/02/2021		Mature
Standard Applicable:		CA-PACK-011		Compost
		AS4454:2012		
Bulk Density (kg/L)		AS4454:2012 Appendix J	0.5	..
Moisture Content (%)		AS4454:2012 Appendix I	23	> 25
pH		AS4454:2012 Appendix B	7.79	> 5
Electrical Conductivity (dS/m)			4.59	< 10
Total Organic Carbon (%)			14.8	≥ 20
Total Carbon (%)		AS4454:2012 Appendix C	14.7	..
Total Nitrogen (%)			1.66	≥ 0.8 ^{see note 7}
Carbon/Nitrogen Ratio		Calculation - Total Organic Carbon/Total Nitrogen	8.9	..
Estimated Organic Matter (% OM)		Calculation - Total Organic Carbon x 1.7	25.2	..
Ammonium Nitrogen (mg/L N)			49.2	< 100
Ammonium Nitrogen (mg/kg N)			246.0	..
Nitrate Nitrogen (mg/L N)		AS4454:2012 Appendix B	104.0	..
Nitrate Nitrogen (mg/kg N)			520.0	≥ 10 ^{see note 7}
Phosphate Phosphorus (mg/L P)			34.8	≤ 5 ^{see note 7}
Phosphate Phosphorus (mg/kg P)			174.2	..
Ammonium/Nitrate Ratio		Calculation - Ammonium/Nitrate	0.5	< 0.5
Nitrogen Drawdown Index (NDI ₁₅₀)		AS4454:2012 Appendix O	0.2	> 0.5
Total Calcium (%)			1.55	..
Total Magnesium (%)			0.33	..
Total Potassium (%)		AS4454:2012 Appendix D	1.18	..
Total Sodium (%)			0.14	< 1 Na
Total Sulphur (%)			0.28	..
Total Phosphorus (%)		AS4454:2012 Appendix D	0.35	≤ 0.1 P ^{see note 10}
Total Zinc (mg/kg)			204	< 300 Zn
Total Manganese (mg/kg)			354	..
Total Iron (mg/kg)			12,003	..
Total Copper (mg/kg)		AS4454:2012 Appendix D	39	< 150 Cu
Total Boron (mg/kg)			23	< 100 B
Total Silicon (mg/kg)			1,183	..
Total Aluminium (mg/kg)			5,434	..
Total Molybdenum (mg/kg)			4.52	..
Total Cobalt (mg/kg)		AS4454:2012 Appendix D	4.56	..
Total Selenium (mg/kg)			1.69	< 5 Se
Total Cadmium (mg/kg)			<0.5	< 1 Cd
Total Lead (mg/kg)			54.1	< 150 Pb
Total Arsenic (mg/kg)			9.4	< 20 As
Total Chromium (mg/kg)		AS4454:2012 Appendix D	23.1	< 100 Cr
Total Nickel (mg/kg)			8.1	< 60 Ni
Total Mercury (mg/kg)			<0.1	< 1 Hg
Total Silver (mg/kg)			<1	..

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Product Name: Product Type: Manufacturing Site: Manufactured Date: Test Code: Standard Applicable:		Sample 1 Batch 1 Compost GMC 26/02/2021 CA-PACK-011 AS4454:2012	Guideline AS4454:2012 Mature Compost
Parameter	Method Reference	K4111/1	
Polychlorinated Biphenyls (mg/kg)		<LOR (Not detected)	< 0.2
Organochlorine Pesticides - DDT, DDD, DDE (mg/kg)	Sub** - SGS Laboratories SE218033	<LOR (Not detected)	< 0.5
Organochlorine Pesticides - Other (mg/kg) ^{see note 9}		<LOR (Not detected)	< 0.02
Salmonella spp (Absent in 25 g)		Not detected	Absent in 25 g
E. coli (MPN/g DW)	Sub** - Symbio Laboratories B1010554	Not detected	< 100 MPN/g
Faecal Coliforms (MPN/g DW)		Not detected	< 1000 MPN/g
Particle Size Grading > 16 mm Sieve (%)		Nil	.. ^{see note 5}
Particle Size Grading 5-16 mm Sieve (%)	AS4454:2012 Appendix G	3.6	.. ^{see note 5}
Particle Size Grading < 5 mm Sieve (%)		96.4	.. ^{see note 5}
Plastics Light Flexible or film > 5 mm (%)		<0.01	≤ 0.05
Stones and Lumps of Clay > 5 mm (%)	AS4454:2012 Appendix I	2.84	≤ 5
Glass, metal and rigid plastics > 2 mm (%)		0.02	≤ 0.5
Wettability (min)	AS4454:2012 Appendix E	>5min	<5
Total CaCO ₃ Equivalent (%)	AS4454:2012 Appendix H	3.58	..
Plant Growth Test - Germination (%)	TMECC 05.05-B	100	> 90
Plant Growth Test - Root Elongation (%)		45	> 90
Oxygen Consumption Rate (mgO ₂ /g/min)		0.35	..
Specific Oxygen Uptake Rate (mgO ₂ /gVVS/hr)		0.11	≤ 1
Solvita Compost Maturity Index	Solvita NH3 Solvita CO2 Solvita Maturity Index	5 7 7 7 - 8
Viable Plant Propagules (7 days)	AS4454:2012 Appendix M	Nil	..
Viable Plant Propagules (21 days)	AS4454:2012 Appendix M	NA	Nil after 21 days
Asbestos Containing Material (ACM)	Sub** - SGS Laboratories SE217361	No asbestos found	..

Notes:

- Methods from AS4454:2012 *Composts, soil conditioners and mulches*.
- Indicative guidelines are based on those in AS4454:2012 for raw mulches, pasteurized product, composted product, mature composts.
- Total Acid Extractable Nutrients indicate a store of nutrients.
- Conversions for 1 mg/kg = 1 ppm; 1% = 10,000 ppm; kg/ha = mg/kg x 2.24.
- Coarse Mulch > 70% >16mm, Fine Mulch <20% >16mm and <20% <5mm, Soil Conditioner <20% >16mm.
- The chloride calculation of Cl mg/L = EC x 640 is considered an estimate, and most likely an over-estimate.
- Guide only to be used if a product claims to contribute to plant nutrition.
- The full test observes the potential growth of viable plant propagules in a 21 day test period. In order to pass there should be Nil after 21 days
- Other Organochlorines include: Aldrin, Dieldrin, Chlordane, Heptachlor, HCB, Lindane, BHC Other Organophosphorus include: Guthion, Bromophos-ethyl, Chlorpyrifos, Chlorpyrifos-methy, Diazinon, Dichlorvos, Dimethoate, Ethion, Fenitrothion, Malathion, Parathion, Ronnel.
- Guide only to be used if a product claims to be used for phosphorus sensitive plants. < 1 if applied to sandy soils
- Testing completed in a NATA accredited laboratory.
- Analysis conducted between sample arrival date and reporting date.
- This report is not to be reproduced except in full. Results only relate to the item tested.
- All services undertaken by EAL are covered by the EAL Laboratory Services Terms and Conditions (refer scu.edu.au/eal).
- This report was issued on 7/04/2021.

Quality Checked: Brian Smith
 Compost & Landscape Soils Co-ordinator